

REMARKS

In the Office Action, claims 1 and 21 were rejected pursuant to 35 U.S.C. §112, first paragraph. The Examiner alleges that the original disclosure fails to disclose selection of “less than” all of the examination and fails to disclose “non-selected portions of the ultrasound examination including ultrasound image data sets after the one or more distinguished events” from claim 1 and similar limitations from claim 21.

Selecting “less than” all of the ultrasound examination is supported. The marking or storage is of one or more subsets of an examination (paragraphs 6 and 26). The use of “subsets” shows less than all. The image data sets are reviewed to store a smaller file and discard other image data sets (paragraph 15). Discarding image data sets shows selection of less than all. In another approach, decimation causes fewer than all image data sets of the selected portion of the examination to be stored (paragraph 40). Fewer than all image data sets shows selection of less than all. A sequence of pairs of markers throughout an examination may be provided, allowing skipping of parts of the examination to review only the parts between pairs (paragraph 44). Skipping to different pairs shows selection of less than all. Many portions of the original disclosure show selection of less than all of the examination.

Image data sets “after” a distinguished event being “not selected” is supported. The selection is of subsets of an examination (paragraph 6). The ability to capture additional images following a selected portion is provided (paragraphs 13 and 45), disclosing that the subset may not be at the end of the examination and providing for image data sets after the selected portion. The selection or storage may be terminated until the next distinguishing event (paragraph 14), showing image data sets occurring after termination or after a selected portion. The selection does not include the “future image data” until another event occurs (paragraph 14). In one example, images are acquired of the heart, but only the beats associated with an unusually short beat are selected (paragraph 28), showing on-going examination with selection of a subset not necessarily at the end of the examination. A sequence of pairs of markers throughout an examination may be provided, allowing skipping of parts of the examination to review only the parts between pairs (paragraph 44). This skipping of un-marked portions shows image data sets between two selected portions, providing non-selected image data sets after at least the first selected portion. Subsets of a real-time examination are stored for later review (paragraphs 49

and 50). The use of the plural “subsets” shows multiple different parts of an on-going examination being selected, providing at least one intermediary part not selected. The intermediary part is after a selected portion. Image data sets after a distinguished event being not selected is supported in multiple locations of the original disclosure.

Claims 1, 4-10, 12, 14-28, and 46 were rejected pursuant to 35 U.S.C. §103(a) as being obvious over Hsieh, et al. (U.S. Patent No. 6,574,304) in view of McDonald (US 5,920,317). Claims 29-27, 39-45, and 47-48 were allowed. Claims 2, 11, and 13 were objected to as allowable if rewritten in independent form.

Applicants request reconsideration of the rejections of claims 1, 4-10, 12, 14-28, and 46, including independent claims 1 and 21.

Independent claim 1 has been amended to include the limitations of allowable claim 13. There are no intervening claims. Accordingly, claim 1 is allowable.

Independent claim 21 has been amended with the requirement of “motion” for the distinguished event recognition. Allowable claims 2 and 11, and allowed claim 29 have motion as a common feature. This limitation has been previously searched and relied on for allowance, so the Examiner is requested to consider this amendment and allow claim 21.

Hsieh, et al. and McDonald do not disclose one or more non-repeating subsets being bracketed by one or more pairs of distinguished events determined as a function of the image analysis of motion in the ultrasound examination.

Dependent claims 4-10, 14-20, and 22-28 depend from the independent claims 1 and 21 discussed above, and are thus allowable for at least the same reasons as the corresponding independent claim. Further limitations distinguish over the reference or references used to reject the dependent claims.

Claims 4 and 12 recite determining a distinguished event based on a rate of change of brightness. Hsieh et al. identify shape, size, curvature, or density of a potential lesion (col. 6, lines 56-63). Change in brightness may be used to find edges, but there is no suggestion to use rate of change.

Claim 5 recites recognizing a jet in color Doppler as an event. The Examiner cites to heart valve prolapse detection, but Hsieh et al. do not even suggest this as a type of feature to be detected (see col. 5, lines 57-61).

Claim 6 recites selecting a portion of the examination between events. Hsieh et al. acquire more images until sufficient information is provided. There is no suggestion that initial or earlier acquired images are not to be used. If not used, there is no suggestion to select anything other than the last image. Hsieh et al. do not suggest selecting between events.

Claims 8, 9, 27, and 28 recite selecting additional portions before and after the events of the first portion. Hsieh et al. do not suggest selecting the additional portions.

Claim 10 recites causing fewer than all image sets of a selected portion to be stored. Hsieh et al. mention a memory for a large amount of data (col. 4, lines 30-31), and that the acquired images are stored (col. 8, lines 36-37). Even in the atypical situation, there is no suggestion to store fewer than the selected portion.

Hsieh et al. do not suggest the audible feedback of claims 15-16, a recording icon of claim 18, or an incremented number of claim 19.

CONCLUSION

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof.

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